

WILDLIFE HARVEST AND POPULATION STATUS REPORT

NORTHERN BOBWHITE – 2008

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QUAIL ABUNDANCE

Conservation Agents and Protection Division volunteers conducted roadside counts of bobwhite quail from August 1-15 in 107 of Missouri's 114 counties. Clay, Jackson, St. Louis, and St. Charles counties are not included because they are high density urban areas near Kansas City and St. Louis. Newton and Greene counties in the southwest portion of the state were dropped from the respective analyses due to outliers in the data. Worth County in the northwest region was not included because the survey route was not run due to water over the roadway. Surveyors count the number of quail observed while driving \leq 20 miles per hour along permanent 30-mile gravel road routes. Participants are instructed to conduct counts beginning at sunrise on clear, dewy mornings with light winds to increase chances that bobwhite will be near roadsides. These observations are used to provide an index of quail abundance across the landscape. Because only a small portion of each county is sampled, the index best represents quail population trends at large scales, such as statewide and multi-county blocks such as the zoogeographic region. The statewide long-term trend of the index closely follows other statewide indices of abundance including the North American Breeding Bird Survey (BBS) and Missouri quail harvest estimates. The roadside survey routes are run almost entirely through private land, so the quail index is a reflection of conditions on Missouri's private lands.

This year's statewide index of 2.9 quail per 30 mile route is 12% below last year's index of 3.3. This is 17% below the 5-year average (2003-2007) and 25% below the 10-year average (1998-2007) (Table 1). Production appeared to be low this year, with the statewide average chick count at 0.8, 45% below last year's count. Total quail counts were variable among zoogeographic regions with counts being highest in the Northeastern Riverbreaks (4.9), followed by the Ozark Plateau (3.2) and the Western Prairie (3.0). Counts were lowest in the Northern and Eastern Ozark Border (0.7) and the Mississippi Lowland (0.9) (Table 1). Statewide long-term trends (1983-2008) are shown in Figure 2 and trends by zoogeographic region are shown in Figure 3. Both figures illustrate a long-term downward trend in bobwhite populations.

Weather conditions over the past year may have negatively impacted bobwhite this year. Temperatures in February and March were colder than average statewide, a period when food is scarce for adult birds. The southwest and Ozark portions of the state experienced significant ice storms in December and February. The same region also had severe

weather spawning 33 tornados and flash flooding on January 7-8. Overall, statewide, temperatures ranged from 2-8 degrees above average in December and January but precipitation was about 48% above average. February through May had cooler than normal temperatures and precipitation that ranged from 27% to 130% above normal (NOAA Midwestern Regional Climate Center). Precipitation continued to remain above normal throughout the summer, resulting in localized flooding events in many regions of the state. The cool, wet spring could have resulted in a negative impact on nesting and chick survival. Such events can destroy nests and cause chicks to die from hypothermia because their feathers are not developed enough to insulate the birds at a young age. Bobwhites are fairly prolific and populations can quickly recover from losses due to weather if habitat conditions are good.

Habitat conditions in Missouri vary from good to poor throughout the state. Over-grazed, fescue-dominated pastures, loss of native grass stands, removal of low growing, dense woody cover, and increased commodity prices have all led to losses in preferred bobwhite habitat. Many programs are in place to assist private landowners in improving bobwhite habitat on their property, including the USDA Conservation Reserve Program (CRP), Conservation Buffers for Upland Birds (CP 33), MDC programs, and habitat programs from organizations including Quail Unlimited and Quail and Pheasants Forever.

TABLE 1. Average number of quail counted per 30-mile route by Conservation Agents along 107 routes during August 1-15, 2008.

Zoogeographic Region ¹	# of Routes In 2008	Quail counted 2008	Quail counted 2007	Long Term Average 1983-2007	% CHANGE from Long-Term Average	% CHANGE 2007 to 2008
Northwest Prairie	11	2.82	5.73	7.87	-27.2%	-50.8%
Northern Riverbreaks	10	2.40	5.20	7.84	-33.7%	-53.8%
Northeast Riverbreaks	20	4.95	3.26	9.59	-66.0%	51.8%
Western Prairie	12	3.08	3.25	15.50	-79.0%	-5.2%
Western Ozark Border	11	2.45	2.85	6.88	-58.5%	-14.0%
Ozark Plateau	24	3.17	2.92	2.98	-1.9%	8.6%
Northern & Eastern Ozark Border	12	0.67	1.92	2.77	-30.7%	-65.1%
Mississippi Lowlands	7	0.86	1.43	5.73	-75.0%	-39.9%
Statewide	107	2.88	3.30	7.21	-54.2%	-12.7%

¹See figure 1.

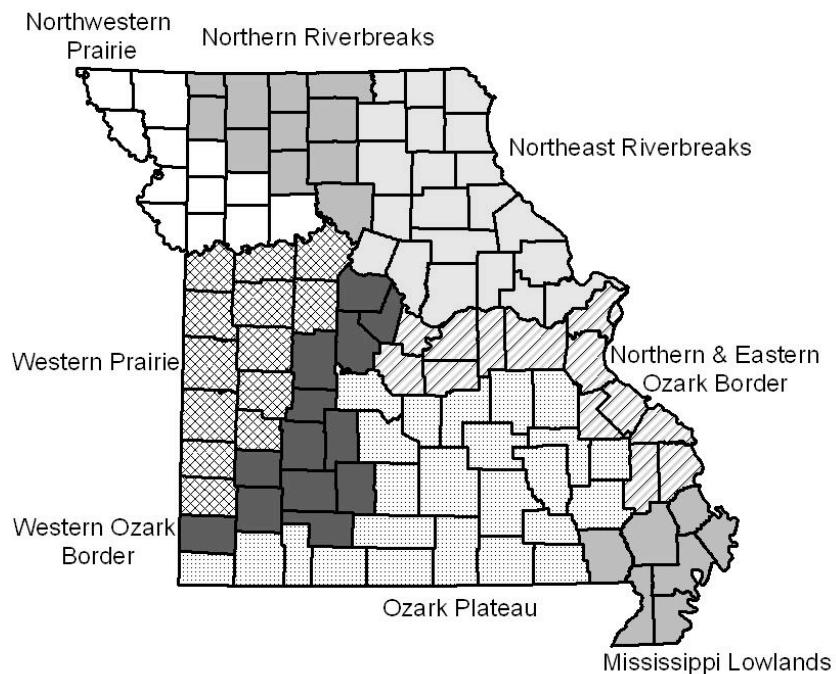


FIGURE 1. Zoogeographic regions of Missouri.

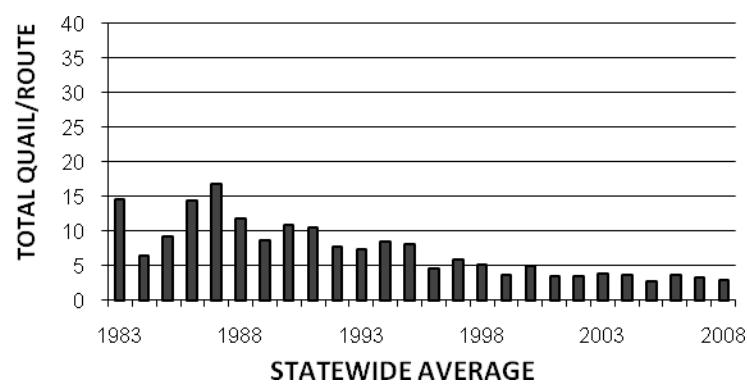


FIGURE 2. Statewide average number of quail counted per route from 1983-2008.

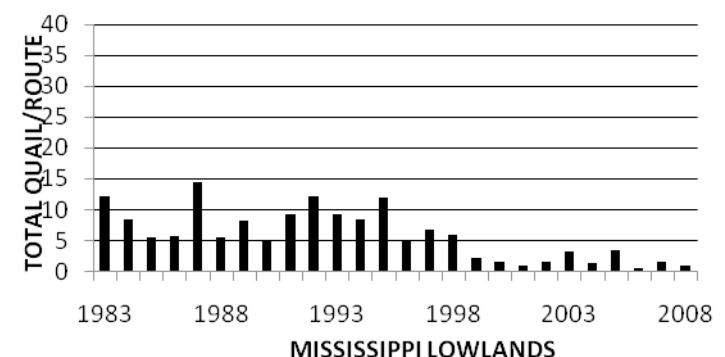
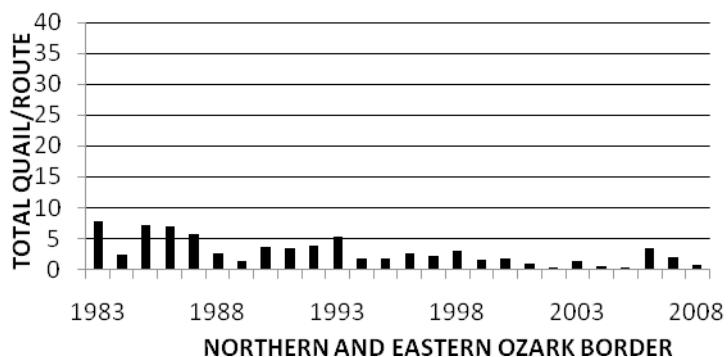
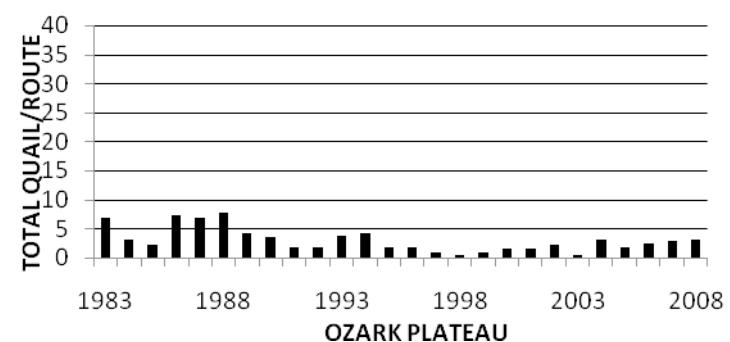
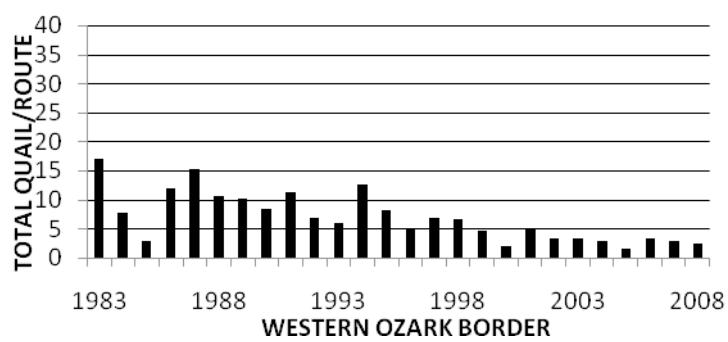
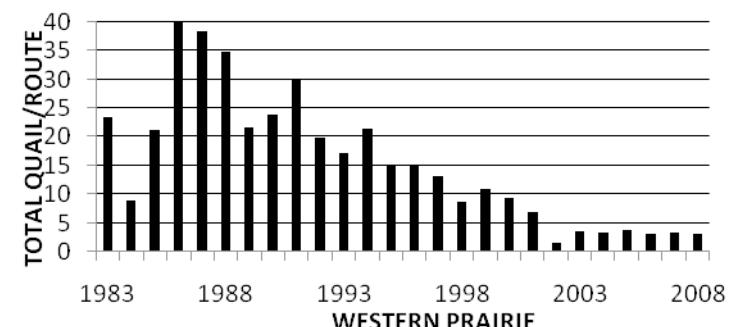
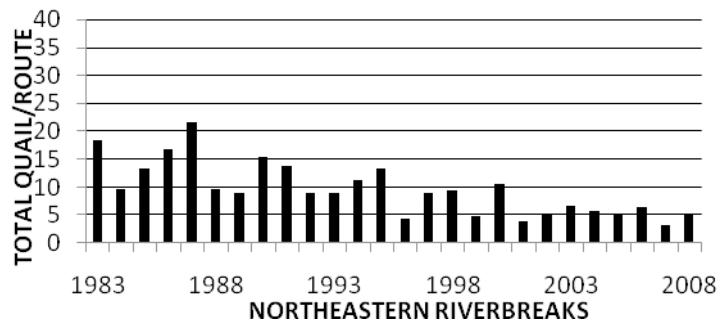
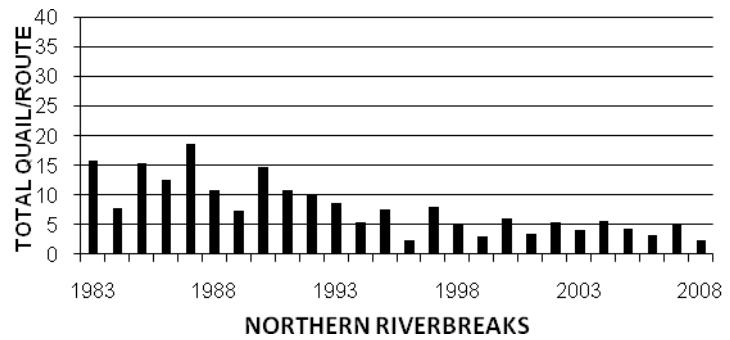
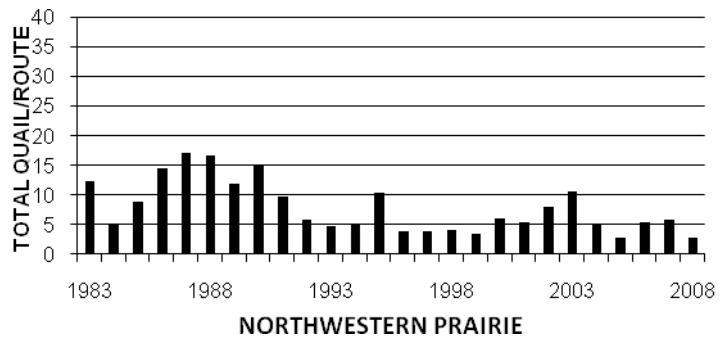


FIGURE 3. Mean quail per 30-mile route by zoogeographic region from 1983-2008.

2007 HUNTING SEASON

MDC collects harvest information from a post-season mail survey of a random sample of Missouri small game permit holders to estimate hunting activity at regional and statewide scales. The 2007 season (November 1, 2007 to January 15, 2008) again showed a decrease in both the number of quail hunters and quail harvest. The number of quail hunters during the 2007 season was 27,830, which was 7.6% lower than the 30,119 hunters from the 2006 season. The total number of birds harvested in 2007 was 258,448, an 11.5% decrease from the 2006 season when hunters harvested 292,080 birds (Figure 4). While the number of hunters and birds harvested continue to decline, the number of birds bagged per day (a statewide index of hunting success) remains relatively stable. The number of birds bagged per day was 1.58 in 2007 compared to 1.59 in 2006. The Western Ozark region had the highest number of birds bagged per day with 1.95, followed by the Northern Riverbreaks region with 1.86 in 2007. In the 2007 season, quail hunters averaged 5.87 days afield and had a season average bag of 9.29 birds. Overall hunters spent 163,364 total days afield in 2007.

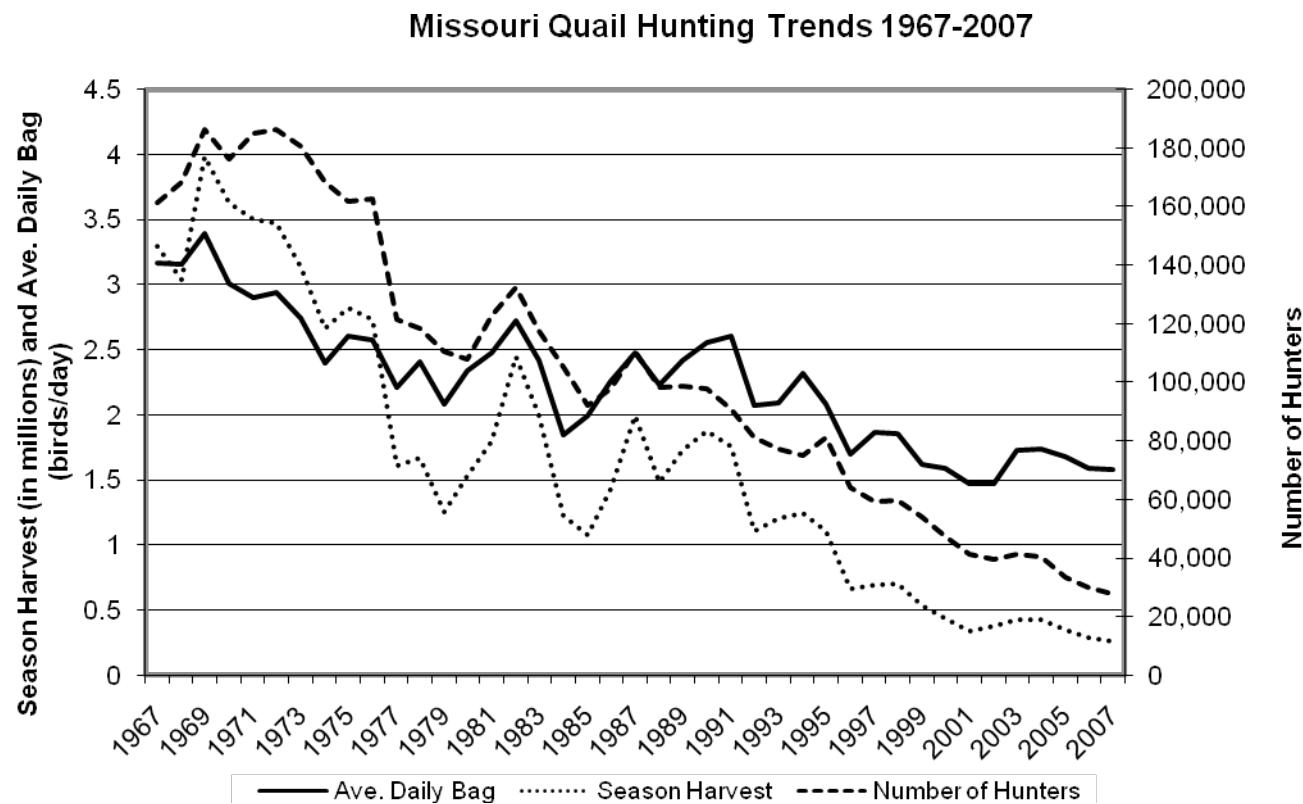


FIGURE 4. Missouri quail hunting trends from 1967-2007. Hunting season bag in millions and daily bag (birds/day) are combined on the left axis. The right axis shows the number of hunters per year.